

L Number	Hits	Search Text	DB	Time stamp
1	1366	(206/219,221).CCLS.	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/09/03 15:25
2	1048	(206/219).CCLS.	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/09/03 16:18
3	434	(206/221).CCLS.	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/09/03 16:36
4	381	215/dig.8.ccls.	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/09/03 16:51
5	680	220/253	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/09/03 17:11
6	254	(220/253).CCLS.	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/09/03 17:12
9	0	thermochochromic and book	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/09/03 17:14
7	15	metachromatic and toy	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/09/03 17:14
8	53	metachromatic and book	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/09/03 17:19
11	111	thermochromic and toy	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/09/03 17:21
12	6	("4586288" "4769414" "4925603" "5502967" "5503583" "5837029").PN.	USPAT	2004/09/03 17:23
10	77	thermochromic and book	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/09/03 17:55
13	5	(resin with foam) and metachromatic	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/09/03 17:32
14	247	foam and metachromatic	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/09/03 17:32

15	9	(foam and metachromatic) and (toy or book)	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/09/03 17:33
16	86	(photochromic or thermochromic) with (toy or book)	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/09/03 17:43
17	164514	428/\$.ccls.	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/09/03 17:43
18	35179	428/\$.ccls. and (book or plate or toy)	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/09/03 17:43
19	886	(428/\$.ccls. and (book or plate or toy)) and reversible	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/09/03 17:43
20	107	((428/\$.ccls. and (book or plate or toy)) and reversible) and (thermochromic or photochromic)	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/09/03 17:50
21	91	(446/14).CCLS.	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/09/03 17:50
22	5	thermochromic with book	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/09/03 17:59
23	77	283/\$.ccls. and (thermochromic or photochromic)	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/09/03 18:14
24	2	281/\$.ccls. and (thermochromic or photochromic)	USPAT; US-PGPUB; EPO; DERWENT; IBM_TDB	2004/09/03 18:14

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L1: Entry 2 of 2

File: DWPI

Dec 10, 1996

DERWENT-ACC-NO: 1997-081490

DERWENT-WEEK: 199708

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TITLE: Heat discolouration bath toy used as play tool of children esp. infant in bathroom - has discolouration unit hose component impregnates or stores water to surface of pattern that bears certain display picture of child

PRIORITY-DATA: 1995JP-0157228 (May 30, 1995)

Search Selected

Search ALL

Clear

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<input type="checkbox"/> JP 08323049 A	December 10, 1996		006	A63H033/22

INT-CL (IPC): A63 H 33/00; A63 H 33/22; G09 B 19/00

ABSTRACTED-PUB-NO: JP 08323049A

BASIC-ABSTRACT:

The toy (1) has a display body (2) with a water resistant base (21) having its lower surface printed with a message (22). An aspect change can be made to a pattern (25) printed at the surface of the display body. The pattern is formed with the combination of the heat reversible discolouration image (23) and un-heat discolouration image (24).

A heat discolouration unit (3) has a component which impregnates or stores the water set to the surface of the pattern that bears certain display picture of a child.

ADVANTAGE - Offers toy which efficiently defines message bore at its lower surface through display picture of certain child. Improves external appearance thus effectively catching attention of consumers. Efficiently teaches children of right attitude, e.g. cleaning habit since picture designed in each bath toy is extremely educational.

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11: Entry 1 of 2

File: JPAB

Dec 10, 1996

PUB-NO: JP408323049A

DOCUMENT-IDENTIFIER: JP 08323049 A

TITLE: THERMAL COLOR CHANGEABLE BATH TOY

PUBN-DATE: December 10, 1996

INVENTOR-INFORMATION:

NAME

COUNTRY

TAKEDA, MASANORI

INT-CL (IPC): A63 H 33/22; A63 H 33/00; G09 B 19/00

ABSTRACT:

PURPOSE: To provide a bath toy by which infants can study habits while enjoying a play.

CONSTITUTION: This thermal color changeable bath toy 1 is composed of a display body 2 on which a message 22 including habits related items for infants is printed and on which an image pattern 25 which is a combination of a reversible thermal color changeable image and a no-color changeable image 24 and changes its appearance based on the message 22 is provided, and a color changeable means 3 which has a shape relevant to habits and is made of a material into which hot water or water permeates.

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(1A)

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8061781

Basic Patent (No,Kind,Date): JP 63043094 A2 880224 <No. of Patents: 002>

PATENT FAMILY:

JAPAN (JP)

Patent (No,Kind,Date): JP 63043094 A2 880224

PIPE JOINT OF BRANCH PIPING OF NOVEL BRANCH PIPE THROUGH WHICH GAS FLOW
AND EXISTING SUPPLY PIPE (English)

Patent Assignee: TOKYO GAS CO LTD; NIPPON KOKAN KEISHU

Author (Inventor): SUGIZAKI YUKIO; MINAMIDE YOSHIAKI

Priority (No,Kind,Date): JP 86186047 A 860807

Applic (No,Kind,Date): JP 86186047 A 860807

IPC: * F16L-041/02; F16L-041/04

Language of Document: Japanese

Patent (No,Kind,Date): JP 95062517 B4 950705

Priority (No,Kind,Date): JP 86186047 A 860807

Applic (No,Kind,Date): JP 86186047 A 860807

IPC: * F16L-041/06

Language of Document: Japanese

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to a thermochromism bath toy. Furthermore, it is related with the thermochromism bath toy which it is going to use for upbringing of a small child with play happily in a detail.

[0002]

[Description of the Prior Art] Before, some proposals are indicated about the bath picture-book and bath toy of thermochromism (JP,47-5619,Y, JP,63-43094,Y, etc.). It tends to be made to discolor with a molten bath or water at the time of bathing, and the conventional above mentioned bath picture-book and above mentioned conventional bath toy of thermochromism tend to enjoy the charm of discoloration, and change of a pattern.

[0003]

[Problem(s) to be Solved by the Invention] This invention tends to offer the thermochromism bath toy constituted so that a small child etc. might make an upbringing element happily memorized with play while being able to enjoy the charm of discoloration, and change of a pattern.

[0004]

[Means for Solving the Problem]

This invention is explained about a drawing (refer to drawing 1 - drawing 6).

In the thermochromism bath toy from which a modality is changed to the display object with which this invention prepared the non-heat discoloration image and the reversible heat discoloration image in the waterproof base material front face with the application of the heat discoloration means through a molten bath or water While the message 22 containing an infantile upbringing element is printed by waterproof base material 21 front face of the display object 2 The pattern 25 constituted by the combination of the reversible heat discoloration image 23 which presents the modality change relevant to said message 22, and the non-heat discoloration image 24 is established. Said heat discoloration means 3 is a gestalt relevant to an upbringing element, and it consists of a member which sinks in or holds a molten bath or water, and let the thermochromism bath toys 1 characterized by setting said display object 2 and the heat discoloration means 3 be requirements. Furthermore, let it be requirements for said waterproof base material 21 to consist of a layered product of a sheet plastic and the plastics porous body which has independent pore.

[0005] The plastics Plastic solid of a configuration etc. can be mentioned suitably, and the waterproof base material 21 in the above has the still more effective thing of a configuration of having carried out the laminating of a sheet plastic and the independent pore porous body so that it might be expedient, although heat discoloration is carried out, various sheets plastic, a synthetic paper, floating the display object 2 on a bath and playing. Moreover, by the system which applies by making much display objects 2 a set, as a hole 26 is formed in the edge of display object 2 front face and it can gather through a string, a ring, etc., it can use for arrangement. The thermochromism ingredients (for example, JP,51-35414,B, JP,51-44706,B, JP,1-29398,B, etc.) in which the thermochromism of the gestalt of the particle of the

thermochromism ingredient containing three components of the organic compound medium which makes the color reaction of an electron-donative coloration nature organic compound better known than before, an electronic receptiveness compound, and said both occur reversibly as heat discoloration material for forming the reversible heat discoloration image 23, or the resin solid solution of said component is shown can be mentioned. The above is discolored before and behind that bordering on predetermined temperature (transformation point), and only one specific condition cannot exist among both the conditions before and behind change in an ordinary temperature region. That is, while the heat or cold energy taken for the condition to be discovered in the state of another side is applied, it is maintained, but if application of said heat or cold energy is lost, it will be the type which returns to the condition of presenting in an ordinary temperature region (a small hysteresis band is shown and it discolors about the temperature-depth of shade by the so-called temperature change).

[0006] Moreover, are indicated by JP,4-17154,B which these people proposed previously. The thermochromism ingredient containing the color storage nature temperature-sensitive allochroic coloring matter which shows a big hysteresis characteristic and is discolored (That is, the configuration of the curve which plotted change of the coloring concentration by the temperature change) The type which follows a greatly different path and is discolored by the case where temperature is dropped from an elevated-temperature side from discoloration temperature to the case where temperature is raised from a low temperature side from a discoloration temperature region, and reverse : In the ordinary temperature region between a low temperature side transformation point and an elevated-temperature side transformation point the modality changed at the temperature below said low temperature side transformation point or more than an elevated-temperature side transformation point -- storage maintenance -- it can do -- the reversible heat discoloration image 23 in which it was painted is also effective.

[0007] The aforementioned thermochromism ingredient is applied as printing ink distributed by the vehicle which contains a binder as a microcapsule pigment gestalt, and forms a printing image in a predetermined part by well-known technique conventionally.

[0008] Three persons containing the message 22 in the above and the reversible heat discoloration image 23 of a pattern 25 and the heat discoloration means 3 function in relation to mutual.

[0009] The effectiveness that a message 22 is brought about by application of the heat discoloration means 3 by modality change by discoloration of the reversible heat discoloration image 23, Display the upbringing information relevant to this, an upbringing means, etc., and the heat discoloration means 3 is equipped with the gestalt relevant to said upbringing element. A molten bath or a water medium is sunk in or held, and it functions as a discoloration implement, and in relation to said message 22, a pattern 25 makes the reversible heat discoloration image 23 discolor in relation to the heat discoloration means 3 further, and carries out vision of the modality change relevant to an upbringing element.

[0010] You are going to make it study specifically cleaning up the upbringing element in the above by the importance of "*****", a shampoo and a shower, or bathing etc. by heat discoloration play.

[0011] said heat discoloration means 3 prepare many discharge openings in the end of the flexible plastics hollow object which can hold the gear tooth brush still more specifically attached in the base material by make into the brush section foam and a felt material with the continuation pore which can sink in a molten bath or water , and hot and cold water , and can illustrate a simulation shower member , a bucket made from plastics , etc. which be constituted so that hot and cold water might be made to inject according to press deformation .

[0012]

[Function] Three persons of a message 22, the pattern 25 containing the reversible heat discoloration image 23, and the heat discoloration means 3 function in relation to mutual. A message 22 displays the effectiveness brought about by the information or it relevant to upbringing, and a pattern 25 makes the reversible heat discoloration image 23 discolor in relation to said message 22, and carries out vision of the modality change, and the heat discoloration means 3 is a gestalt relevant to an upbringing element, and functions as a heat discoloration implement through media, such as a molten bath or water, with depth perception.

[0013]

[Example]

Example 1 (refer to drawing 1 - drawing 2)

While printing the message 22 which is going to make the body attach the habit of "toothbrushing" to the sheet-plastic front face of the waterproof base material 21 with which the laminating of the porous body which has independent pore was carried out to the sheet plastic, the reversible heat discoloration image 23 of food was put on some non-heat discoloration images 24, and the pattern 25 in the condition that emphasized the regio oralis and the tooth part was polluted was printed, was carried out, and the display object 2 was constituted. The reversible heat discoloration image 23 in the above has a transformation point at 38 degrees C, and it is a printing image in the reversible thermochromism ink decolorized below in a transformation point above colored and a transformation point, and it is constituted so that the image of the candy which it has in the dirt and the hand of a tooth part in the state of coloring may present brown and an apple may present red, respectively.

[0014] On the other hand, the sponge which has continuation pore was attached in the edge of the support section made from plastics, and the simulation gear-tooth brush 3 was constituted. If a molten bath or water is infiltrated into said sponge section, it is applied as a heat discoloration means 3, a 40-degree C molten bath is infiltrated and the dirt part by the reversible heat discoloration image 23 is traced, the image of the candy which it has in the dirt and the hand of said tooth part, and an apple will be decolorized, and will change to the condition of having brushed teeth. The above mentioned modality change is reversible and repeat reappearance is carried out. In addition, it changes to said reversible thermochromism ink, and is a color storage nature thermochromism ingredient (a low temperature side transformation point 15 degrees C). An elevated-temperature side transformation point is 38 degrees C, and it is in a coloring condition below in said low temperature side transformation point, and decolorizes above an elevated-temperature side transformation point. In the temperature region within the limits of said 15 degrees C thru/or 38 degrees C It applies. the modality changed said below low temperature side transformation point or above the elevated-temperature side transformation point even if it was after removing the heat or cold energy which change took -- tautomerization ---like -- storage maintenance -- it can do -- If said same reversible heat discoloration image 23 is formed, within the limits of 15 degrees C thru/or 38 degrees C, at 25 degrees C, can carry out the storage maintenance of either of the changed modalities, and it is made to change with a molten bath or water, and the condition can be made to be able to hold in tautomerization and can be enjoyed.

[0015] In addition, printing formation of the information relevant to a gear tooth can be carried out, and parents can also tell the proper place of said display object 2 information required for upbringing of a child.

[0016] Example 2 (refer to drawing 3 - drawing 4)

After carrying out printing formation of the profile image of a bear in non-thermochromism ink as a non-heat discoloration image 24 using said same waterproof base material 21, the message 22 which the reversible heat discoloration image 23 decolorizes with a shampoo, and disguises itself as the image of a bear with the pattern 25 which piles up, prints and makes the reversible heat discoloration image 23 a head, and is made with the modality of LION was formed. Said reversible heat discoloration image 23 is an image in the reversible thermochromism ink which has a 38-degree C transformation point and is decolorized above brown and 38 degrees C below 38 degrees C.

[0017] on the other hand -- an end -- many discharge openings -- arranging -- a centrum -- press -- fabricate the simulation shower head which consists of a deformable plastics Plastic solid, constitute the discoloration means 3, made a molten bath or water hold in said centrum, and it was made to inject by press deformation actuation, and offered as a heat discoloration means 3.

[0018] When the molten bath was injected for the pattern 25 which presented the modality of target LION, the brown reversible heat discoloration image 23 was decolorized, and disguised itself as the bear.

[0019] Example 3 (refer to drawing 4 - drawing 5)

After carrying out printing formation of the infantile illustration in non-thermochromism ink as a non-

heat discoloration image 24 using said same waterproof base material 21, The message 22 which piles up, prints and carries out the reversible heat discoloration image 23 showing the condition of having been polluted by brown with mud and dirt, using the reversible thermochromism ink of an example 2, makes the pattern 25 of the small child who became dirty with mud etc., removes ***** dirt and is further cleaned up by bathing was printed, and the display object 2 was constituted.

[0020] On the other hand, the bucket 3 made from plastics which can hold a molten bath or water was created, and the heat discoloration means 3 was constituted.

[0021] When a molten bath or water was put into said bucket 3 and having been passed in the part of mud dirt, it changed to the modality which *****ed in each temperature change.

[0022]

[Effect of the Invention] this invention bath toy can enjoy the modality change by the charm of discoloration, or discoloration -- in addition, it consists of a molten bath or water possible [discoloration] conjointly with the mutual visual effect by the combination of three persons of a message, a pattern, and a discoloration means, and upbringing elements, such as toothbrushing, a shampoo, and bathing, can be made to be happily memorized with play in relation to an infantile upbringing element in a bath

[Translation done.]

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CLAIMS

[Claim(s)]

[Claim 1] In the thermochromism bath toy from which a modality is changed to the display object which prepared the non-heat discoloration image and the reversible heat discoloration image in the waterproof base material front face with the application of the heat discoloration means through a molten bath or water While the message containing an infantile upbringing element is printed by the waterproof base material front face of a display object The pattern constituted by the combination of the reversible heat discoloration image which presents the modality change relevant to said message, and a non-heat discoloration image is established. The thermochromism bath toy characterized by for said heat discoloration means being a gestalt relevant to an upbringing element, and consisting of a member which sinks in or holds a molten bath or water, and setting said display object and the heat discoloration means.

[Claim 2] The thermochromism bath toy according to claim 1 with which a waterproof base material consists of a layered product of a sheet plastic and the plastics porous body which has independent pore.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the explanatory view showing the modality before and behind the discoloration in the display object of the 1st example of this invention thermochromism bath toy.

[Drawing 2] It is the explanatory view showing the application condition of the heat discoloration means of the 1st example.

[Drawing 3] It is the explanatory view showing the modality before and behind the discoloration in the display object of the 2nd example of this invention thermochromism bath toy.

[Drawing 4] It is the explanatory view showing the application condition of the heat discoloration means of the 2nd example.

[Drawing 5] It is the explanatory view showing the modality before and behind the discoloration in the display object of the 3rd example of this invention thermochromism bath toy.

[Drawing 6] It is the explanatory view showing the application condition of the heat discoloration means of the 3rd example.

[Description of Notations]

1 Thermochromism Bath Toy

2 Display Object

21 Waterproof Base Material

22 Message

23 Reversible Heat Discoloration Image

24 Non-Heat Discoloration Image

25 Pattern

26 Hole

3 Heat Discoloration Means

[Translation done.]